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PICKLING CUCUMBER CULTIVAR EVALUATION TRIALS

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## PICKLING CUCUMBER CULTIVAR EVALUATION TRIALS - 1987

Dale Kretchman, Mark Jameson and Charles Willer

The pickling cucumber cultivar evaluation trials were conducted at the OARDC Vegetable Crops Branch near Fremont. Seventeen cultivars or lines were evaluated in the replicated trial and six cultivars or lines were evaluated in the non-replicated observational trial.

### Cultural Information

The soil is classed as a sandy loam. A broadcast application of 10-20-20 at 1000 lbs/A was made and incorporated prior to planting. The plants were seeded on May 31 using a Stan-Hay seeder which seeds 4 to 5 seeds per ft. of row. Plants were thinned to 2 single plants per foot of row. Rows were 30 ft. long on 30-in. centers. Alanap at 4 lb/A, Prefar at 6 lb A were incorporated before planting. One active hive of honeybees was placed in the plot area when the plants started to bloom. All other cultural practices during the growing season were according to standard recommendations. Weed control was excellent and no serious insect or disease problem developed during the season.

The plots were harvested by hand and the cucumbers were graded and sized using a commercial sizer. Fruits were classed into the following sizes and values placed on each size according to the following values:

<u>Size</u>	<u>\$/Ton*</u>	
	<u>PCIC</u>	<u>OHIO</u>
1. Less than 1 1/16 in.	120	300
2. 1 1/16 to 1 1/2 in.	60	170
3. 1 1/2 to 2 in.	40	90
4. 2 to 2 1/4 in.	20	20

Harvest started twice weekly on July 28 and continued through August 15 for six harvests.

Growing conditions in 1988 were characterized by above normal temperatures and below normal rainfall and humidities generally throughout the pickling cucumber season.

Rainfall: June = 0.63 (3.91 long-term avg.)  
              July = 2.84 (4.01 long-term avg.)  
              to Aug. 15 = 0.64 (1.40 long-term avg.)  
Irrigation: June 17 = 1 inch  
              July 2 = 3 inches

\*PCIC values established by the Pickling Cucumber Improvement Committee of Pickle Packers International. Ohio values based upon estimated average prices paid in 1984-85.

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The soil was dry at seeding and emergence was delayed until after the 1-inch of irrigation was applied on June 17. The plants generally grew well after emergence, although some heat stress was evident during days of highest temperatures. The high temperatures also influenced bee activity, although no direct observations were made. However, yields were generally good and the amount of off-shaped fruit was not abnormally great.

Seed companies and others who provided the seed for the trials included: Harris-Moran Seed Co., Mountain Grove, CA; Petoseed Co., Inc., Saticoy, CA; Sunseeds, Hollister, CA; Ferry-Morse Seed Co., Mountain View, CA; Stokes Seeds, Inc., Buffalo, NY; Asgrow Seed Co., Mountain View, CA; Department of Horticulture, University of Wisconsin, Madison, WI; and Bejo Zaden Seeds, Noorddscharwaude, Holland.

TABLE 1. First harvest yield from replicated trial of pickling cucumber cultivars, 1988.

Line	Source	Lot No.	Size	Tons/A				Total	Culls
				1	2	3	4		
FMX-4760	FM	----		.03	.00	.00	.00	.03	.00
FMX-4639	FM	----		.35	.12	.00	.00	.47	.04
PSX-50183	PS	472-1003		.70	.39	.00	.00	1.09	.06
N.L.-7959	ST	----		.41	.28	.00	.00	.69	.11
Spear It	ST	141-E		.45	.19	.00	.00	.64	.04
Calypso	ST	146-A		.47	.37	.00	.00	.84	.06
Green Spear-14	ST	146		.22	.20	.02	.00	.42	.06
Fancipak	AS	VGS9082		.33	.07	.00	.00	.40	.01
Discover	AS	VGW6079		.99	.45	.02	.00	1.44	.22
Primepak	AS	VGP9058		.49	.05	.00	.00	.54	.05
Flurry	AS	VGS9080		.94	.78	.06	.00	1.78	.30
Carolina	PS	----		.61	.72	.04	.05	1.37	.17
Adonis	Bejo Z	----		1.06	.25	.01	.00	1.32	.25
XPH-2464	HM	32996		1.13	.45	.00	.00	1.58	.07
Royal	HM	77614-33348		.80	.25	.00	.00	1.05	.04
Sunre 3503	SS	869669		.82	.43	.00	.00	1.25	.04
Sunre 3509	SS	869670		.73	.49	.00	.00	1.22	.04
LSD .05				.27	.24	---	---	.41	.10

TABLE 2. Yield from replicated trial of pickling cucumber cultivars, 1988.

Line	Yield from 6 harvest dates - Tons/A							L/D Ratio		Seed cavity size*
	7/28	8/1	8/4	8/8	8/11	8/15	Total	8-1 Size 2	8-11 Size 2	
FMX-4760	.03	.64	1.55	3.74	1.97	4.01	11.94	3.19	3.08	=
FMX-4639	.47	1.95	2.90	3.88	2.11	3.98	15.29	3.31	3.52	=
PSX-50183	1.09	2.28	3.50	4.49	2.69	4.15	18.20	3.28	3.13	=
NL-7959	.69	1.97	2.18	4.08	2.83	4.02	15.77	3.10	3.02	=
Spear It	.64	2.50	2.47	4.20	2.78	4.38	16.97	3.35	3.25	=
Calypso	.84	2.60	3.20	3.90	3.30	4.59	18.43	3.25	3.18	-
Green Spear-14	.42	1.07	2.31	3.44	2.28	3.77	13.29	3.46	3.23	+
Fancipak	.40	1.66	3.05	3.51	2.94	4.52	16.08	3.11	3.22	=
Discover	1.44	2.21	2.42	3.88	1.89	3.21	15.05	3.57	3.40	=
Primepak	.54	1.68	2.62	3.82	2.86	4.28	15.80	3.46	3.48	=
Flurry	1.78	2.92	2.90	4.41	2.48	3.66	18.15	3.32	3.31	-
Carolina	1.37	2.18	3.08	4.27	2.57	3.69	17.16	3.01	3.07	=
Adonis	1.32	2.70	2.73	3.72	1.65	2.28	14.40	3.12	3.29	+
XPH-2464	1.58	2.86	3.50	4.22	2.56	4.25	18.97	3.57	3.52	=
Royal	1.05	2.34	2.95	4.26	2.76	4.07	17.43	3.43	3.39	+
Sunre-3503	1.25	2.57	2.90	4.63	2.42	4.32	18.09	3.39	3.33	+
Sunre-3509	1.22	3.14	2.99	4.36	2.61	4.36	18.68	3.34	3.27	-
LSD .05	.41	.79	.69	----	.78	1.00	2.63	.55	.18	

\*Seed cavity size compared to Carolina: "=" Same size; "+" larger, and "-" smaller.

Table 3. Value of harvested cucumbers from replicated trial based on PCIC values, 1988.

Line	PCIC Value of 6 Harvest Dates - \$/A						Total
	7/28	8/1	8/4	8/8	8/11	8/15	
FMX-4760	3	49	109	221	142	198	722
FMX-4639	50	119	185	225	148	194	921
PSX-50183	108	153	216	261	187	205	1130
NL-7959	67	119	152	236	182	203	959
Spear It	65	144	177	244	186	205	1021
Calypso	79	169	213	236	208	236	1141
Green Spear-14	39	87	160	209	159	183	837
Fancipak	44	117	194	204	184	230	973
Discover	147	145	166	214	131	155	958
Primepak	61	121	184	235	185	229	1015
Flurry	163	167	209	252	172	178	1141
Carolina	119	122	201	239	193	175	1049
Adonis	142	181	210	224	107	132	996
XPH-2464	162	178	239	262	178	220	1239
Royal	111	163	204	259	181	195	1113
Sunre-3503	124	168	206	259	172	212	1141
Sunre-3509	116	193	203	250	174	210	1146
LSD .05	38	49	42	36	44	48	169

Table 4. Value of harvested cucumbers from replicated trial based on Ohio values, 1988.

Line	Ohio Value of 6 Harvest Dates - \$/A						Total
	7/28	8/1	8/4	8/8	8/11	8/15	
FMX-4760	8	127	272	555	356	479	1797
FMX-4639	126	305	482	559	382	479	2333
PSX-50183	278	392	552	650	485	491	2848
NL-7959	172	308	394	581	459	490	2404
Spear It	167	370	459	605	475	479	2555
Calypso	204	441	551	585	525	576	2882
Green Spear-14	100	223	421	527	410	447	2128
Fancipak	112	303	502	503	474	567	2461
Discover	377	378	428	525	330	370	2408
Primepak	154	323	484	583	473	565	2582
Flurry	422	431	543	626	442	426	2890
Carolina	309	306	517	591	495	416	2634
Adonis	361	473	551	566	267	335	2553
XPB-2464	416	464	623	662	448	551	3164
Royal	283	427	530	664	458	477	2839
Sunre-3503	319	439	535	640	432	516	2881
Sunre-3509	300	503	523	614	439	504	2883
LSD .05	96	126	110	92	111	117	432

TABLE 5. First harvest yield from observational trial of pickling cucumber cultivars, 1988.

Line	Source	Lot No.	Size:	Tons/A				Total	Culls
				1	2	3	4		
PSX-50585	PS	004-487-1000		.81	.23	.00	.00	1.04	.06
3888G x Clinton	U.of W.	801		.75	.73	.00	.00	1.46	.06
2238G x Clinton	U.of W.	802		.41	.06	.00	.00	.47	.00
2238G x 1379H	U.of W.	803		.58	.52	.00	.00	1.10	.06
Sunre 3502	SS	23-425-Y0031		.78	.81	.00	.00	1.59	.09
Sunre 3515	SS	869667		.35	.32	.00	.00	.67	.09

TABLE 6. Yield from observational trial of pickling cucumber cultivars, 1988.

Line	Yield from 6 harvest dates - Tons/A							L/D Ratio		Seed cavity size*
	7/28	8/1	8/4	8/8	8/11	8/15	Total	8-1 Size 2	8-11 Size 2	
PSX-50585	1.04	1.42	2.82	3.19	2.38	3.22	14.07	3.24	3.25	=
3888G x Clinton	1.46	1.97	4.12	3.43	3.48	4.01	18.47	3.28	3.16	-
2238G x Clinton	.47	1.57	2.09	3.08	2.00	3.51	12.72	3.31	2.96	-
2238G x 1379H	1.10	2.55	2.26	3.51	2.21	3.51	15.14	3.08	3.08	=
Sunre 3502	1.59	2.61	2.50	3.69	1.77	4.18	16.34	3.35	3.24	+
Sunre 3525	.67	2.84	2.18	4.96	2.06	5.11	17.82	3.27	3.08	-

\*Seed cavity size compared to Carolina: "=" same size; "+" larger; "-" smaller.

Table 7. Value of harvested cucumbers from observational trial based on PCIC values, 1988.

Line	PCIC Value of 6 Harvest Dates - \$/A						
	7/28	8/1	8/4	8/8	8/11	8/15	Total
PSX-50585	111	106	181	210	175	179	962
3888G x Clinton	134	106	190	214	179	200	1023
2238G x Clinton	52	90	126	150	113	168	699
2238G x 1379H	101	153	139	167	125	139	824
Sunre 3502	143	187	179	228	113	194	1044
Sunre 3515	61	161	142	271	156	249	1040

Table 8. Value of harvested cucumbers from observational trial based on Ohio values, 1988.

Line	Ohio Value of 6 Harvest Dates - \$/A						
	7/28	8/1	8/4	8/8	8/11	8/15	Total
PSX-50585	283	274	467	531	449	438	2442
3888G x Clinton	350	271	430	527	420	469	2467
2238G x Clinton	132	228	319	334	271	381	1665
2238G x 1379H	263	399	345	382	302	293	1984
Sunre 3502	373	475	466	563	300	464	2641
Sunre 3515	159	412	359	656	394	604	2584



TABLE 9. Additional observations.

Cultivar or Line	Comments
FMX-4760	Appears to be segregating-some warty and some smooth, less than 50% emergence, white spine, mottled dark green, appears long L/D.
FMX-4639	Long, dark green, white spine, fairly blocky, large blossom scar, about 50% emergence.
PSX-50183	Medium green, stippled, white spine, blocky, acceptable L/D, looks very good.
NL-7959	Light to dark green, stippled, white spine, blocky, looks good.
Spear It	Light green, white spine, stippled, very warty, slight taper on blossom-end, looks good.
Calypso	Light green, stippled, white spine, blocky, very warty, L/D may be a bit long, looks good.
Green Spear-14	Medium green, white spine, warty, blocky but long, slight taper at blossom-end, looks good.
Fancipak	Medium green, stippled, warty, white spine, blocky, looks very good.
Discover	Medium green, stippled, white spine, long L/D, blossom-end and stem-end moderately tapered, not impressive.
Primepak	Medium to light green, stippled, white spine, warty, long L/D, slight restriction blossom-end, looks good if a long fruit is desired.
Flurry	Light green, stippled, white spine, blocky, warty, looks very good.
Carolina	Internal standard, medium-light green, stippled, white spine, warty, slight blossom-end restriction, looks very good.
Adonis	Fuzzy European type cucumber, restricted ends on fruit.
XPH 2464	Medium green, stippled, small warts, white spine, restricted blossom-end and stem-end, long L/D.
Royal	Medium green, white spine, warty, restricted blossom-end, looks fair to good.
Sunre 3503	Medium dark green, white spine, warty, blocky, looks good.
Sunre 3509	Looks similar to 3503, and may be segregating, very light to very dark green color, white spine, warty.
PSX 50585	Medium to dark green, white spine, highly variable L/D, not blocky, restricted in middle of fruits.
3888G x Clinton	Medium dark green, white spine, warty, blocky, looks very good.
2238G x Clinton	Medium dark green, white spine, warty, restricted blossom-end, few stems remain on fruit, not as impressive as 3888G x Clinton.
2238G x 1379H	Light green, striped, white spine, restricted blossom-end and slight restriction on stem-end, many stems remain on fruit.
Sunre 3502	Medium dark green, white spine, slight restriction at blossom-end, may have long L/D, larger fruits resemble fresh market type.
Sunre 3515	Medium to dark green, white spine, not blocky, restricted blossom-end, may be short L/D.

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